

AN OVERVIEW ON RETAIL REVERSE LOGISTICS

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Abstract

This article is a theoretical approach on retail reverse logistics. Environmental concern and the current marketing strategy have spurred retailers to implement strategies to facilitate product returns from end customers. Reverse logistics, indicating the process of this return flow, encompasses such activities as the movement of returned products, facilities to accommodate returned items, and overall remedy process for returned items. The retail industry, under great competitive pressure, has used return policies as a competitive weapon. Grocery retailers were the first to begin to focus serious attention on the problem of returns and to develop reverse logistics innovations. Grocery retailers first developed innovations such as reclamation centers. Reclamation centers, in turn, led to the establishment of centralized return centers. Centralizing returns has led to significant benefits for most firms that have implemented them. Over the last several years, retailers have consolidated. Now, more than ever, reverse logistics is seen as being important. This reverse distribution activity can be crucial to the survival of companies, because the permanent goodwill of the company is at stake. Businesses succeed because they respond to both external and internal changes and adjust in an effective manner to remain competitive.

Keywords

competitive advantage; network design; outsourcing; retail activity; reverse logistics

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Introduction

If no goods or materials are being sent "backward", the activity probably is not a reverse logistics activity. Reverse logistics also includes processing returned merchandise due to damage, seasonal inventory, restock, salvage, recalls, and excess inventory. It also includes recycling programs, hazardous material programs, obsolete equipment disposition, and asset recovery. Therefore, reverse logistics is: „the process of planning, implementing, and controlling the efficient, cost effective flow of raw materials, in-process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing value or proper disposal”. More precisely, reverse logistics is the process of moving goods from their typical final destination for the purpose of capturing value, or proper disposal. Remanufacturing and refurbishing activities also may be included in the definition of reverse logistics. Reverse logistics has become a managerial priority because of the assets/value involved and the potential impact on customer relations (Daugherty et al., 2005). Customers expect their vendors to be willing and able to handle returns (Daugherty et al., 2003). In today’s competitive retail environment, patrons often choose one retailer over another based on the retailer’s returns policy. Products are returned for a wide range of reasons including defects or damage, customer dissatisfaction, and, especially in the business-to-business context, lower than projected sales (Barsky and Ellinger, 2001).

Importance of reverse logistics

Reverse logistics is important as it has direct impact on the bottom line (Stock, 1998; Mason, 2002). Lowering product quality, as a consequence of sourcing goods from emerging economies, liberal returns policies, buyer's remorse, the rise of internet and home shopping and obsolescence linked to shortening product life cycles are a number of factors that have led to rise in this phenomenon (Bernon and Cullen, 2007). The costs of dealing with returns are disproportionate compared to forward logistics and it has been likened to a process that goes the wrong way down a one way street as typically supply chains are optimized around forward logistics (Lambert and Stock, 1982). It has been recognised that effective supply chain management can enhance customer value and reduce operating costs (Christopher, 2005). This view is supported by Tibben-Lembke (2002) who suggests that many techniques have been discovered to maximise the effectiveness and efficiency of forwards logistics and that companies and researchers are just at the beginning to appreciate the important differences and how to best structure reverse logistics operations. Autry (2005) builds upon this by stating that reverse logistics is not optional but mandatory. Many companies do not appreciate the importance of reverse logistics to the business whilst only a few have implemented business wide practices aimed at minimising the effects of returns. Mollenkopf et al. (2007) specifically call for research on returns management which incorporates perspectives from the accounting and finance function, an area that has previously received little attention.

Management aspects of retail reverse logistics

The scope of reverse logistics throughout the 1980s was limited to the movement of material against the primary flow. As time moved on, more sophisticated definitions began to emerge and Rogers and Tibben-Lembke (1998) defined reverse logistics as "the process of planning, implementing and controlling the efficient, cost effective flow of raw materials, in-process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing value, or proper disposal". However, this definition is still somewhat limited as many products are returned to a point of recovery and not their origin (de Brito and Dekker, 2002). In recent years, a number of definitions have emerged. The Reverse Logistics Association (2009) refer to the term reverse logistics "as all activity associated with a product/service after the point of sale, the ultimate goal to optimize or make more efficient aftermarket activity, thus saving money and environmental resources". It should be noted that reverse logistics is not a homogeneous subject but an umbrella term that encompasses a number of different operational contexts. The Supply Chain Council (2008) identify types of returns flows, namely; return of defective products, return for maintenance, repair and overhaul of products and return of excess products, manage. More recently, the issue of sustainability has added a further dimension with manufactures and retailers in certain markets find that they are now obliged by law to take back their products at the "end of life" and recycle them (Walther and Spengler, 2005). Retail reverse logistics describes the activity of returning goods back through the supply chain with a focus on retailers. Raimer (1997) indicated that returns are, and always have been, a fundamental part of retailing. This can originate from a customer returning a product to a retail outlet or a commercial decision to withdraw the product for sale. Although retail reverse logistics is not a new concept, the growth of the internet and home shopping has seen a marked rise in the volumes of products being returned (Rowley, 2000; Wheatley, 2002; Mukhopadhyay and Setoputro, 2004). In addition, many grocery retailers have recently increased the level of non-grocery lines in their stores. The management of reverse logistics systems typically have a number of key differences from forward or outbound systems. Tibben-Lembke and

Rogers (2002) highlighted a number of factors where differences occur. They cited the ability to forecast volumes, transport systems being “many to one” rather than “one to many”, product quality not uniform, unclear disposition routes, costs not directly visible and speed not considered a priority. This suggests that the managerial aspects for reverse logistics are not the same as for outbound. Indeed, Richey et al. (2005) make the case that reverse logistics deserves special attention in terms of labour due to the lack of standardisation and that management should be focused on innovative ways to handle returns. They also conclude that there may be enough exceptions to warrant the development of customised technology. These differences attract higher costs due to the special nature and non-conformity of the operational characteristics. In addition to these costs, the asset value of a returned product is normally significantly lower than the original cost of the item while timing of returns can have implications on the liquidity for retailers as they can generate periodic negative cash flows (Horvath et al., 2005).

Physical network design

The studies on network design focus on the design of logistics structures for shipping used/returned products back to facilities. Consumers expect to trade in an old product when they buy a new one. Different products may be returned at different stages of their life cycles. They may go for remanufacturing, repair, reconfiguration, and recycling as per the most appropriate disposition decision. *Collection* is the first and a very important stage in the recovery process, where product types are selected and products are located, collected, and, if required, transported to facilities for rework and remanufacturing. *Inspection/sorting* may be carried out either at the point/time of collection itself or afterwards (at collection points or at rework facilities). Collected items generally need sorting. Inspection/sorting illustrates the need for skill in the sorting of used products. This may or may not be combined with preprocessing. Preprocessing may be in the form of sorting, segregation, partial or complete disassembly or minor repair and refurbishing activities. It may be carried out either at collection centers or at rework facility depending upon the technological and economic factors. *Location and distribution* are the most important and critical area of reverse logistics that is assuming greater importance day by day. *Capacity decisions* in general aim at providing the right amount of capacity at the right place and at the right time. Long-range capacity is determined by the size of the physical facilities that are built. In general, facility decisions are affected by estimated returns (assuming infinite markets), costs, competitors’ behavior and other strategic and operational considerations (Moise, 2008). Four management aspects are relevant when considering physical network design (Bernon, Rossi and Cullen, 2009).

Facility location

A significant body of literature addresses the network design aspects of reverse logistics. Good network design can optimise transportation, reduce inventory, order processing and warehousing costs related to returns (Amini et al., 2005). Blumberg (2005) distinguish different models according to the nature of products (traditional waste, high- tech and low-tech products, consumer goods) and the independency between forward and reverse flows, while Srivastava and Srivastava (2006) presented a conceptual model focused on the estimation of returns for different categories of products, in order to make decisions related to location and capacity of facilities. The contribution from Fleischmann (2001) was to create a generic facility location model for reverse logistics networks. Other authors have subsequently developed quantitative models to extend the knowledge on network design (Gomes Salema et al., 2007; Kara et al., 2007; Lieckens and Vandaele, 2007). Min et al. (2006) discussed

the aspect of centralised versus decentralised return centres to minimise overall operating costs, while Lieckens and Vandaele (2007) considered inventory holding costs, lead times related to product's cycle time. Blackburn et al. (2004) evaluated network design from the perspective of the time value of products. He compared the requirements of high and low clock speed industries where the life cycle of products is a key factor in the design of reverse logistics networks. Viewed in this way, network configuration is a tradeoff between speed and cost efficiency. For products with short product life cycles a responsive supply chain is required to maximise the opportunity for re-use before they become obsolete.

Outsourcing

Other researchers have considered the benefits of outsourcing returns operations to third-party logistics providers as a mechanism to reach higher levels of efficiency, economies of scale, knowledge of dealing with returns (Krumwiede and Sheu, 2002; Sarkis et al., 2004; Min and Ko, 2008) and access to capabilities, such as, specialist information technology (Richey et al., 2005). Managing reverse flows normally requires different network infrastructure, handling equipment infrastructure and information systems (Ko and Evans, 2007). Third party logistics service providers are companies who provide a range of logistics activities for their clients. They might operate distribution centres, manage the delivery of the product through their transport fleets or undertake value-adding services such as re-packing. Another model for the coordination of complex networks that has been proposed is the idea of a fourth-party logistics (Martin Christopher, 2005). The fourth-party logistics would assemble a coalition of the 'best of breed' service providers and using its own information systems capability, ensure a cost-effective and sustainable supply chain solution.

Green supply chain management

Green supply chain management incorporates environmental thinking into supply chain management (Srivastava, 2007). Outsourcing reverse distribution to logistics service providers has the benefit of less fuel consumption, less packaging and the opportunity to reach the critical mass of goods, as investigated in e-commerce (Sarkis et al., 2004). There was recognition that reverse logistics networks are not as efficient as forward logistics and the use of third-party logistics companies could lessen the environmental impact (Bernon, Rossi and Cullen, 2009). The green supply chain management literature suggests that the main concern for logistics and supply chain managers is how to embed green concerns into decision-making practices (Wu and Dunn, 1995). In terms of green supply chain management and reverse logistics, Srivastava (2008) suggests field research around best practices in the area of reverse logistics may help decision-makers come up with "solutions for various strategic, tactical and operational aspects". The fieldwork that we undertook as part of the development of our conceptual framework highlights the need to focus on returns avoidance as well as creating better value from assets when returns do occur.

Information technology

Daugherty et al. (2005) found that reverse logistics information technology capabilities have a direct and positive impact on economic performance and stated that significant technology support is needed due to the nature of reverse logistics operations. Similar to the influence that industry clock speed has on network design, the rate of product innovation also has an impact on the information technology requirements as fast clock speed industries will require effective information support. Closs and Savitskie (2003) provide empirical evidence that information technology is a major differentiator of logistics performance. This view is supported by Daugherty

et al. (2002) who suggest that “managers will need to apply sophisticated support to maintain satisfaction levels across the supply and efficiently handle and redistribute inventory as necessary”.

Organizational integration

Daugherty et al. (2003) recognised that “developing a relationship orientation involving trading partner trust and commitment is one to facilitate better reverse logistics program performance and respond to customer return-related demands”. Golicic and Mentzer (2006) proved the indirect and positive influence that trust, commitment and dependence have on relationship value, through relationship magnitude. The benefits of supply chain integration have been discussed by numerous authors in the supply chain literature (Stevens, 1989; Frohlich and Westbrook, 2001; Bagchi and Skjoett-Larsen, 2005; Christopher, 2005; Mitra and Singhal, 2008; Sha et al., 2008; van Hoek et al., 2008). Haozhe et al. (2009) proved the dimensions of integration to be connectivity and simplification, developing scales to describe them, by both an internal and an external perspective. Return policies also exist between retailers and manufacturers. Yao et al. (2005) suggest that retailers are much more willing to order higher quantity of goods, if the manufacturer applies a liberal return policy. In many cases, there is no penalty placed on retailers to return excess inventories as they receive a full credit (Padmanabhan and Png, 1995). Indeed, manufacturers often stipulate return policies that encourage bulk purchases without considering the reverse logistics impacts (Emmons and Gilbert, 1998).

Performance measurement

Ravi and Shankar (2005) identify several barriers to reverse logistics programmes including the lack of appropriate performance measurement. A significant body of literature exists covering performance measurement systems and frameworks (Kaplan and Norton, 1992; Neely et al., 2000). However, there is little in this regard relating to retail reverse logistics. Daugherty et al. (2002) identified both operating and financial measures for effectively managing recovered asset and inventory investment. Autry et al. (2001) undertook a survey which identified environmental regulatory compliance, customer relations, recovery of assets, cost containment, profitability and inventory investment as reverse logistics related performance measures. Richey et al. (2005) building on Autry’s earlier work considered operational performance measures including, ease of obtaining a return authorisation, length of time for credit processing, handling of reconciliation of charge backs, quality of rework or repair, timeliness of rework or repair.

Conclusions

Operating effective reverse logistics programs is a critical part of retail business, because the programs often represent the firm’s most visible and possibly final effort at recovering value from a service failure. Reverse logistics practices vary based on industry and channel position. Industries where returns are a larger portion of operational cost tend to have better reverse logistics systems and processes in place. In the book industry, where great change in the industry structure has occurred in the last few years, returns are a major determinant of profitability. Successful retailers understand that managing reverse logistics effectively will have a positive impact on their bottom line. Industries that have not had to spend much time and energy addressing return issues are now trying to make major improvements.

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